

Name: _____

Date: _____

A2CC: Review Sheet for Quarter 1 Exam 2

Please show all work on a separate piece of paper. This review sheet is NOT comprehensive. It is merely a sampling of questions from topics that we have covered. Please go over all notes and homework assignments to fully prepare.

Exam 2 : Wednesday, October 19th

1. Solve for x : $32^x = 8$
2. Subtract $(-4 - 2i)$ from $(6 + 9i)$, and express answer in $a + bi$ form.
3. Find the product of $(-3 + 6i)$ and $(3 + 5i)$.
4. Find the solution set of $x - \sqrt{x + 4} = 2$
5. Solve for y : $4y^{\frac{2}{3}} - 5 = 20$
6. Express in simplest radical form in terms of i : $2\sqrt{-196} - 3\sqrt{-225}$
7. Simplify: $(1 - 3i)^2 + 6i$
8. Simplify: $\frac{\sqrt{7} + \sqrt{3}}{\sqrt{7} - \sqrt{3}}$
9. What is the conjugate of $-2 - 6i$?
10. Express $\frac{4}{3 + \sqrt{7}}$ as an equivalent fraction with a rational denominator.
11. Write as a power of i in simplest terms: i^{2001}
12. Solve for x : $\left(\frac{1}{3}\right)^{1-x} = 9$

13. Factor each of the following completely:

(a) $4y^2 - 25x^2$

(f) $x^6 + 8$

(k) $5x^2 - 20$

(b) $y^2 - c^2d^2$

(g) $x^3 + x^2 - 4x - 4$

(l) $3x^2 + 12x + 12$

(c) $4x^2 + 12x + 9$

(h) $x^5y^2 - xy^6$

(m) $27x^3 - 1$

(d) $x^2 + 3x - 18$

(i) $-9x^3 - 3x^2 + 3x + 1$

(n) $2x^3 - 3 + x^2 - 6x$

(e) $2x^2 + 9x - 35$

(j) $x^2(x+2) - 9(x+2)$

For 25 -27, simplify the expression and eliminate any negative exponent(s).

14. $(12x^4y^2)^2 \left(\frac{x^5y}{2} \right)$

15. $(rs)^3(2s)^{-2}(4r)^4$

16. $\frac{a^{-3}b^4}{a^{-5}b^5}$

For 28 and 30, evaluate each expression.

17. $(-32)^{\frac{2}{5}}$

18. $\left(\frac{25}{64} \right)^{-\frac{3}{2}}$

19. Write $a^{-\frac{2}{5}}$ using radicals.

20. Simplify: $\sqrt[3]{81x^8y^4}$

21. Simplify: $2\sqrt{8x^3} + 3x\sqrt{32x} - x\sqrt{18x}$

22. Solve for x : $\sqrt{x+16} - x = 4$

23. Solve for x : $2x = 3\sqrt{x+3} + 3$

24. What is $4x^{\frac{1}{2}}$ written in radical form?

25. Express with rational exponents: $\sqrt[4]{3x}$

26. Solve: $(w + 1)^{3/2} = 64$

27. Solve for x: $2x^{2/5} = 32$

28. Solve for y: $3y^{1/3} - 2 = 4$

29. Solve: $16^{x-1} = 8^x$

30. What is the value of x in the equation $81^{x+2} = 27^{5x+4}$?

31. What is the solution set of $2^{x+1} = 8$?

32. Solve: $\left(\frac{1}{27}\right)^{-x} = 9^{x+2}$

33. What is the solution set for $\sqrt{x+11} + 1 = x$?

34. Find the solution to the equation $10 + \sqrt{x+2} = 8$